



## ***CO-OPS Evaluation Criteria for Water Level Station Documentation***

**Note:** these criteria shall be used by RDD/OET personnel to evaluate the quality of water level station documentation submitted for entry in the database. Any deficiencies will be noted on a separate evaluation form for correction and/or resubmission by the field party.

**Transmittal letter** – required for each submission

### **Annual Inspection Station Specific Requirements**

- All items completed, or explained sufficiently in section on work to be performed next year

**Site Report** (required for installation, annual inspection, emergency maintenance, remote maintenance [corrective or preventive], bracketing levels, and removal)

- All applicable information complete, especially serial numbers of DCP/sensors, dates of installation/removal of DCP/sensors, and levels
- Lat/Long for primary sensor in d/m/s.x determined by handheld GPS \*
- Noted date/time sensor offset change entered in Sutron 9000 and Xpert DCPs (time of startup after upgrade)
- Noted date/time new datum offset entered in Sutron 9000 and Xpert DCPs
- Metadata provided for ancillary sensors
- Actual notes on results of dive inspection or cleaning of underwater components
- Status of valid tie to NAVD88 noted in level section remarks
- Excessive movement of WL sensor or bench marks noted in level section remarks

### **Protective Well/Sounding Tube Diagram**

- Elevations related to station datum submitted for new installations or relocations

### **Station “To Reach” Statement**

- Provided digitally in proper NOS format (as found in the published bench mark sheet)

### **Chart Section**

- Station location clearly indicated by a symbol
- Standard title block includes: station number, station name, lat/long as d/m/s.x, NOAA Chart number, USGS quad name in all caps \*
- Digital copy saved in jpg format

### **Bench Mark/Station Location Sketch**

- Standard title block includes: station number, station name, field unit, date drawn, 2-3 revision dates
- North arrow shown
- Gage and bench marks locations shown, local body of water labeled
- All active (recovered and not recovered) BMs identified by designation; BMs confirmed as destroyed removed from sketch. \*
- Digital copy saved in jpg format

### **Digital Photographs**

- Station Photos – shelter and its nearby surroundings, well and brackets, DCPs; file names start with station number followed by the specific view, with jpg extension (i.e. 866 1070 inside shelter.jpg)
  - Several shots of met tower and sensors from different directions (i.e. 866 1070 met tower looking SW.jpg)
- Bench Mark Photos – close up on disk face, with or w/o GPS handheld in view; two photos from different directions showing general location for all new marks; file names start with mark designation followed by either “face” or “location and direction of view”, with jpg extension (K 137 looking South.jpg)

**NOTE:** items marked as \* are now required to standardize the precision of the primary sensor location in the Site Report and provide a common format for the bench mark sketch and chartlet. Any new or revised sketches or chartlets submitted shall have the standard title block.

### **Bench Mark Descriptions/Recovery Notes**

- Non-electronic:
  - Descriptions provided digitally in NOS format as displayed on the published bench mark sheet
  - RAD/xxx noted for marks recovered as described, where xxx is contractor, field party, or party chief initials
  - Handheld GPS position in d/m/s.x provided at the end of the text description
- Electronic:
  - All HA file codes completed accurately
  - Text description begins with a statement on how to reach the mark, followed by the description in NOS format
  - Handheld GPS position in d/m/s.x provided at the end of the text description; must use d/m/s in position coding in the HA file (does not accept s.x)

### **Levels**

- Marks leveled this inspection include those not leveled previous year (all marks leveled once every two years), and/or marks specially noted in the specific station requirements. Explanation provided for any marks not leveled.
- Non-electronic:
  - C-shot notes provided
  - Level note pages filled out completely; marks identified by designation
  - If level note pages are in Excel, the page for the backward run must be modified to include the section marks (as on the forward run page)
  - NOS-approved Wiz level notes acceptable in existing format

- Sectional and overall closures within allowable
- Abstracted mark elevations start with PBM accepted elevation and end with the Primary Sensor elevation above station datum (spur to primary sensor)
- Check for valid tie to NAVD88

- Electronic:
  - Original IN file provided in separate folder if IN is edited
  - All file dates must be chronologically consistent; the HA and INX files can not have dates more recent than the ABS file.
  - Error flags not allowed on sectional distances of the abstract
  - Abstracted mark elevations start with PBM accepted elevation and end with the Primary Sensor elevation above station datum
  - Check for valid tie to NAVD88
  - Invar rod calibration certificates for first-time digital leveling

### **GPS Documentation**

- GPS observations performed on the designated GPS mark; explanation provided if another mark is selected
- All required documentation and data files submitted
- Data file submitted to OPUS and acceptable solution returned; digital and hard copy of OPUS solution email submitted

### **Water Level Data Download**

- Xmodem file (9000/8200) or Zmodem file (Xpert, Dark, 9210) of downloaded data from the primary and/or backup DCP for known periods of missing transmissions or maintenance actions

### **Other Station Information**

- Lease or license agreements with owner, contract documents, etc.